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Abstract

Whereas research on generalized prejudice is dominated by variable-centered approaches, which focus on communalities between different types of prejudice, we propose a complementary person-centered approach, looking for subgroups of people characterized by similar patterns of prejudice. To this end, we compare the results of a variable-centered (using confirmatory factor analysis, CFA) and a person-centered (using latent class analysis, LCA) approach to generalized prejudice. While CFA points to a multidimensional solution with a strong overlap between prejudice dimensions, LCA distinguishes five prejudice patterns that cannot be organized along a linear continuum of more versus less prejudiced dispositions. Explanatory models for the two solutions are estimated. Results show that the two methods are largely complementary in conceptualizing generalized prejudice.

Keywords: Generalized prejudice, variable-centered, CFA, person-centered, LCA

Introduction

A recurrent finding in literature about prejudice is that individuals tend to be consistent in their evaluations of different groups, a phenomenon labeled as "generalized prejudice" (Allport, 1954; Bergh & Akrami, 2016). Research into generalized prejudice is dominated by the use of variable-centered approaches to extract a latent generalized prejudice factor capturing the communality between particular prejudices (e.g., Bratt, 2005; Zick et al., 2008). Such techniques postulate a linear structure that is common for a homogenous population (Asendorpf, 2003).

Here, we argue that conceptual issues inherent to the variable-centered approach potentially limit our understanding of generalized prejudice. Therefore, we propose a complementary person-centered approach, using cluster-based techniques such as latent class analysis (LCA). LCA tests the notion that there are distinct subgroups of people within the population, characterized by particular combinations of prejudice types (Collins & Lanza, 2010). The aim is to compare the structure of prejudice (i.e. the linkage between prejudices directed toward different groups) based on a variable-centered *and* a person-centered approach.

From a Variable-Oriented to a Person-Oriented View on Generalized Prejudice

The traditional view of generalized prejudice suggests that some individuals are negative toward almost any outgroup (Allport, 1954), and this remains a common description of the phenomenon (e.g., Bäckström & Björklund, 2007; McFarland, 2010). Generalized prejudice is often substantiated by confirmatory factor analysis (CFA). This approach constructs a continuous latent factor that underlies observed prejudices toward different groups and explains the pattern of correlations between prejudices. Zick and colleagues (2008), for instance, use CFA to show that prejudices toward women, immigrants, Jews, and gays all load

on a single latent factor representing a linear continuum from more to less generalized prejudice. However, there are several potential pitfalls to this approach. The first issue is a mismatch between definitions of generalized prejudice that stress broad negativity toward outgroups, and empirics capturing sentiments about marginalized groups (Bergh, Akrami, Sidanius, & Sibley, 2016). Second, generalized prejudice assumes the presence of bias (or negativity) across all examined target groups. Conceptually, variable-oriented analyses do not warrant such conclusions, at least not when the focus is on factor loadings and structural associations (as in generalized prejudice research).[1] A high degree of correlation merely indicates that individuals who have above-average levels of prejudice against A are also likely to have above-average levels of prejudice against B, irrespective of what those average levels are. In other words, the analyses are blind to the magnitude (or even existence) of prejudice across target groups. Other research shows that the prevalence of prejudice toward different target groups depends on each group's position in social space (Crandall, Eshleman, & O'Brien, 2002; Hagendoorn, 1995) and the particular characteristics of the target group (Meeusen, Barlow & Sibley, in press). Using variable-centered strategies, these nuances in the structure of prejudice remain unexplored. A third issue is that variable-centered approaches imply a homogeneous pattern of associations between prejudices, and thus preclude the existence of subpopulations with distinct constellations of ratings. As a result, the approach risks overlooking the possibility that people combine prejudices in different ways. Fourth, the variable-centered approach (typically) assumes linearity: That the generalized prejudice factor drives specific prejudices gradually at a constant rate, but also that all individuals can be ordered along a linear continuum (stronger versus weaker tendency for generalized prejudice).

Because of these issues, we propose a complementary view on the structure of prejudice via a typical *person-centered* approach, namely LCA. In contrast to the variable-centered approaches that look for (homogenous) similarities between variables, LCA attempts

to identify unobserved subgroups of individuals (latent classes) that are characterized by particular combinations of prejudices, and that reproduce associations between constructs (prejudices in this case) in terms of different mean profiles (Collins & Lanza, 2010). For example, instead of asking whether prejudices toward gays, Jews, and immigrants all load on a single factor (the CFA approach, e.g., Zick et al., 2008), one could explore if one class of individuals rate all groups negatively, whereas another class is positive toward gays, but prejudiced against immigrants and Jews. Another difference is that person-centered approaches do not rest on linearity assumptions. Instead of forcing observations in the direction of an underlying continuum (more versus less prejudice), more-complex constellations of prejudice are allowed.

Taken together, these properties of LCA make the method well suited to complement the traditional variable-centered approach for examining how people think about different groups (Duckitt, 1992). It allows questions such as: Do some individuals really dislike all rated groups (i.e., existence of generalized negativity)? Do people dislike some target groups more compared with the prevailing opinion in society (i.e., *relative* generalized prejudice in the sense of deviating from group-mean negativity)? Do people differentiate between target groups and direct prejudice only toward some specified group(s) and not to others (i.e., target-specific prejudice)?

Explaining Factors and Patterns of (Generalized) Prejudice

Why do people have lower or higher levels of generalized prejudice? Like the notion of interrelated prejudices, this question has been addressed using variable-centered techniques, such as regression analyses and structural equation modeling, with the aim of finding an explanatory model of generalized prejudice factors that applies to all respondents (e.g., Bergh et al., 2016; Meeusen & Kern, 2016; Zick et al., 2008). Typical examples of explanatory

variables are social dominance orientation (SDO: A preference for group hierarchies), right-wing authoritarianism (RWA: A belief in conventionalism, authoritarian submission, and aggression), reduced generalized trust, low cognitive ability, low education level, and being ideologically rightist (Duckitt, 1992; Hodson & Dhont, 2015).

Models such as the dual process model (Duckitt, 2001) and stereotype content model (Fiske, Cuddy, Glick, & Xu, 2002) suggest that different groups are targeted by prejudice for different reasons (see also Mackie & Smith, 2014). In essence, these models focus on the potential multidimensionality of prejudice, wherein each sub-dimension may also have its own explanatory mechanism. A typical characteristic of people who explicitly dislike ethnic minorities, for example, is that they feel threatened by these groups for economic (e.g. competition over jobs) or symbolic (e.g. different norms and values) reasons (Stephan & Stephan, 2000). Similarly, realistic group threat theory predicts that individuals in a weak economic position will fear the presence of ethnic minorities more, as they believe they are in direct competition with these groups (Blalock, 1967; Kunovich, 2004). These perspectives do not contradict the generalized prejudice idea, however, as there are substantial overarching communalities between prejudices associated with different threats (see Bergh & Akrami, 2016). Nonetheless, the variable-centered approach tends to focus on broad communalities, or to treat a multitude of sub-dimensions separately (for exceptions, see Akrami, Ekehammar, & Bergh, 2011; Meeusen & Dhont, 2015). In a person-centered approach, it is intuitive to capture both at the same time, with some individuals potentially disliking everyone and others having very specific biases.

Aims and Hypotheses

This article has two primary aims. First, we compare the structure of prejudice with variable-centered and person-centered analytic strategies, using CFA and LCA. To do so, we examine

feeling thermometer ratings toward seven target groups that often experience prejudice and discrimination in Belgium: The "other" regional linguistic group (Walloons/Flemings),[2] immigrants, homosexuals, North Africans, Eastern Europeans, Roma, and Jews. We expect attitudes toward immigrants, North Africans, Eastern Europeans, and Roma to be more similar, as these ethnic groups invoke similar cultural and socioeconomic threats (Billiet & De Witte, 2008). Homosexuals and the other linguistic group have in common that they primarily activate symbolic threats among the majority group (Meeusen & Jacobs, 2017; Klein et al., 2012). The position of the Jews is less clear, because they are perceived as both economically and symbolically threatening, but are not seen as ethnic minorities in the same way that North Africans and Eastern Europeans are (Spruyt, Van der Noll, & Vandenbossche, 2016).[3]

Offering distinct conceptual insights, we expect to find a continuous dimension of (generalized) prejudice (CFA approach), but we also model subgroups of individuals who are characterized by particular combinations of prejudice (LCA approach). More specifically, we hypothesize to identify at least three types: One that simply dislikes all the target groups, one that generally likes all target groups, and one or more others that are prejudiced toward a typical subset of particular groups and less so toward others. Importantly, McCutcheon (1985) found evidence of this assertion in terms of political tolerance (granting a voice to various groups), and we expect that basic evaluative group ratings (i.e., prejudice) will reveal a similar pattern.

Second, we examine whether the two approaches produce similar explanatory models, by including well-known predictors of generalized prejudice. Based on previous research in the variable-centered tradition, we know that some predictors primarily relate to the generalized prejudice dimension, while others relate to particular forms of prejudice. On the one hand, we expect that education, generalized trust, RWA, and a left-right ideology are primarily related to the generalized prejudice continuum (e.g., Meeusen & Kern, 2016). On

the other hand, we expect that predictors such as moral progressiveness and religious practice are especially related to attitudes toward groups characterized by different moral and religious value systems (e.g., sexual and religious minorities), and that evaluations of the economic situation and perceptions of threat due to immigration primarily explain attitudes toward ethnic minorities. It remains to be explored, however, how these predictors may relate to patterns of prejudice in a person-centered framework.

Methods

Participants

Our analyses rely on data from the Belgian Election Panel 2009–2014 (Dassonneville, Falk Pedersen, Grieb, & Hooghe, 2014), a national probability sample of Belgians aged 18 and above. Attitudes toward the different target groups were only measured in the 2014 wave. In 2014, all 4,488 respondents from the original 2009 sample were contacted again to participate in a paper-based survey a few weeks before the Belgian federal and regional elections in May 2014. After three reminders, a total of 1,542 valid surveys were returned, resulting in a response rate of 34.4% for the 2014 sample.

As we re-analyzed an existing dataset, we could not decide on a sample size based on an *a priori* power analysis. Nonetheless, the sample size is well above rule-of-thumb guidelines for reliable CFA estimates (e.g., Brown, 2006). LCA does not yet have well-established sample size guidelines.

Materials

Prejudice toward the seven target groups was assessed with feeling thermometers ranging from 0 (“very negative feeling”) to 100 (“very positive feeling”). In the explanatory model of (factors/patterns of) prejudice, we included following predictors: Gender, religious practice

(four categories: Non-religious, non-practicing Catholic, practicing Catholic, and other), age (in years), education (six-point scale), region (Flanders or Wallonia), evaluation of own economic situation and Belgian economic situation (five-point scales ranging from "the situation has become much worse" to "the situation has become much better"), generalized trust (11-point scale ranging from "you cannot be careful enough" to "most people can be trusted"), and left-right ideology (eleven-point self-placement ranging from "leftist" to "rightist"). Five-point Likert-type scales from 1 ("strongly disagree") to 5 ("strongly agree") were used to measure RWA (two items), moral progressiveness (three items), and economic and cultural threat from immigration (one item each, r=.49) (Table 1).

Table 1: Question wording and descriptive statistics of explanatory variables

Variable	Range	Mean or percentage	*SD*
Gender	1 – 2	51.41% Male 49.59% Female	
Religious practice	1 – 4	30.1% Non-religious 55.8% Non-practicing Catholic 10.4% Practicing Catholic 3.7% Other (Muslim, Jew, Orthodox and other religions)	
Age (in years)	18 − 94	53.9	15.59
Education	1 – 6	4.13	1.19
Region	1 – 2	55% Flanders 45% Wallonia	
Evaluation of own economic situation (*Compared with the past year, how has the economic situation of your family changed?*)	1 – 5	2.57	.88
Evaluation of economic situation in Belgium	1 – 5	2.43	.99

(*Compared with the past year, how has the economic situation in Belgium changed?*)			
Generalized trust (*In general, do you think that most people can be trusted or that you cannot be careful enough with other people?*)	0 – 10	4.33	2.52
RWA (*People who break the law must be punished more severely* and *First of all, schools must teach children discipline; r*=.41)	1 – 5	3.18	.68
Left-right ideology (*In politics, terms such as 'left' and 'right' are often used. Could you map your own ideological conception on a scale from 0 to 10, with 0 referring to 'leftist', 5 to 'in the center', and 10 'rightist'*)	0 – 10	5.03	2.46
Moral progressiveness (*Acceptance of euthanasia for minors; It is normal for gay couples to have the right to adopt children*; and *A woman should be allowed to have an abortion if she wants to*; Cronbach's Alpha=.57)	1 – 5	3.73	.84
Economic threat from immigration (*In general, it is bad for the Belgian economy that people from other countries come to live here*)	1 – 5	3.37	1.54
Cultural threat from immigration (*In general, cultural life in Belgium is negatively affected by people from other countries who come to live here*)	1 – 5	3.07	1.22

Results

Structure of Prejudice

Average evaluations vary across the seven target groups, but all the ratings are positively associated, indicating that those who rate one group more negatively typically also rate other groups more negatively (a traditional generalized prejudice result; see Table 2).

Table 2: Mean, standard deviation (SD), and correlations between feeling thermometer ratings (range 0-100; 0=very negative feelings, 100=very positive feelings)

	Mean	*SD*	2.	3.	4.	5.	6.	7.
1. Immigrants	41.47	26.46	.85	.78	.46	.34	.72	.45
2. North Africans	36.86	26.59		.83	.43	.32	.75	.44
3. Eastern Europeans	35.84	26.16			.41	.31	.76	.42
4. Linguistic other	64.37	23.37				.42	.38	.47
5. Homosexuals	66.03	28.55					.35	.54
6. Roma	30.45	26.32						.45
7. Jews	57.25	27.52						

N=1,393 (FIML estimation for missing data).

Both the CFA and LCA were performed in Mplus 7.3 software using the default Full Information Maximum Likelihood (FIML) estimator to handle missing data. For the CFA, we first tested a one-factor solution and found it to provide a poor representation of the data (Model 1, Table 3): Warmth ratings toward the seven target groups were not reducible to a single dimension in Belgium. We next estimated a two-factor model: An ethnic prejudice factor including the ethnically-different groups (immigrants, North Africans, Eastern Europeans, and Roma) and a symbolic prejudice factor including the groups mainly targeted for symbolic (moral, religious, and linguistic) reasons (homosexuals, Jews, and the linguistic other). A model without correlated factors did not fit the data well (Model 2). A model allowing the two factors to load on a second-order generalized prejudice factor had good fit

with strong loadings (>.70, p<.001) (Figure 1). This second-order factor model is a statistically equivalent specification of a model with two correlated latent factors. Indeed, the correlation between the two factors is very strong (.63, p<.001), indicating that the two factors overlap to a large extent. The CFA thus points to a two-dimensional conceptualization of prejudice, but with a strong generalized prejudice factor underlying the separate dimensions (for similar models capturing sub-dimensions together with broad communalities, see Beierlein, Kuntz, & Davidov, 2016; Bergh et al., 2016; Bratt, 2005). Accordingly, a multi-dimensional model seems fairly representative of the variable-centered approach to generalized prejudice, and therefore a good reference point for a comparison with a person-oriented approach.

Table 3: Model fit indices of CFA models

	Chi-square	*df*	RMSEA	CFI	TLI	SRMR
Model 1. One dimensional	545.65	14	.17	.91	.87	.08
Model 2. Two dimensional: No correlation between two dimensions	562.93	14	.17	.91	.87	.23
Model 3. Two dimensional: Second-order factor	123.14	13	.08	.98	.9	.03

Note. RMSEA = Root Mean Square Error of Approximation, CFI = Comparative Fit Index, TLI = Tucker-Lewis Index, SRMR = Standardized Root Mean Square Residual, N=1,393 (FIML estimation for missing data, MLR estimation).

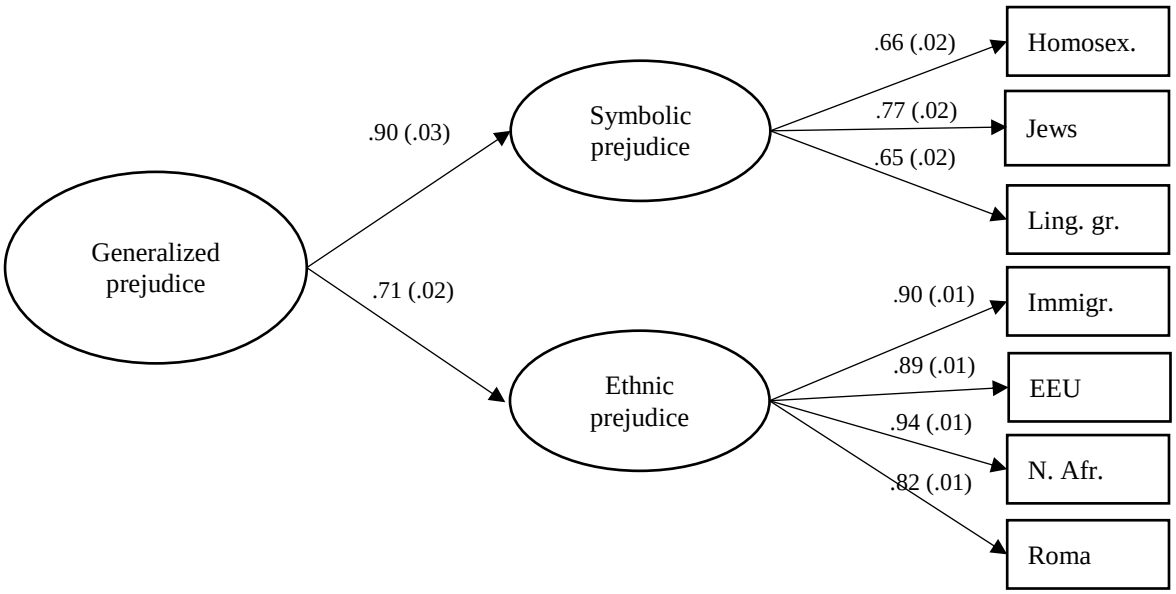

Figure 1: Second-order CFA of generalized prejudice

Standardized factor loadings and standard error in parentheses. Graphical representation of Model 3 in Table 3. Homosex. = homosexuals, Ling gr. = other Linguistic group (Flemings or Walloons), Immigr. = immigrants, EEU = Eastern Europeans, N. Afr. = North Africans. *N* = 1,393 (FIML estimation for missing data, MLR estimation).

Turning to a person-centered approach, the same target group ratings were included in the LCA as categorical variables with the mean of each target group as the cut-off point: 0 representing values below the target mean (i.e., relatively negative feelings) and 1 representing values above or equal to the target mean (i.e., relatively positive feelings). This procedure thus yields information on the *relative* evaluation of the target group: Per latent class evaluations of the seven target groups are compared with the prevailing opinion about these groups among all the survey respondents. In the second step, we also calculated the average target group ratings per latent class to evaluate the *absolute* levels of the group ratings. As a result, the *absolute* interpretation of generalized prejudice (individuals are similarly negative toward all groups) and the *relative* interpretation (individuals are not

necessarily negative toward all groups, but tend to be negative compared with the prevailing attitude in their social environment) could be evaluated (see Duckitt, 1992).

The appropriate number of latent classes was identified by estimating a series of models with increasing numbers of classes and comparing their model fit (Table 4) (Nylund, Asparouhov, & Muthen, 2007). The lower the BIC, aBIC, and AIC, the better the model. A significance level of p>.05/.01 for the Lo-Mendell-Rubin and Parametric Bootstrap Likelihood Ratio Test means that the model with K−1 classes is preferred to the model with K classes. Importantly, the best latent class solution should be theoretically meaningful.

Table 4: Model fit indices for latent class solutions

# classes	BIC	aBIC	AIC	LMR LRT	PB LRT	Entropy
2 classes	10,409	10,361	10,330	.00	.00	.90
3 classes	10,151	10,078	10,031	.00	.00	.85
4 classes	10,051	9,953	9,889	.02	.00	.76
5 classes	**10,047**	**9,923**	**9,843**	**.02**	**.00**	**.75**
6 classes	10,089	9,940	9,843	.11	.26	.75

Note. BIC = Bayesian Information Criterion; aBIC = Sample size-adjusted BIC; AIC = Akaike Information Criterion; LMR LRT = Lo–Mendell–Rubin Likelihood Ratio Test; PB LRT = Parametric Bootstrap Likelihood Ratio Test. N = 1,393 (FIML estimation for missing data, MLR estimation).

The measurements indicate that a five-class solution fits the data best: The BIC, aBIC, and AIC have the lowest values compared with the other solutions, and the two likelihood ratio tests show that model fit does not improve when increasing the number of classes to six. Moreover, the five-class solution offers theoretically-meaningful latent classes and the entropy shows good classification accuracy.[4]

The interpretation of the latent classes is based on the conditional probabilities (Figure 2) and the mean values of the target-specific ratings (Figure 3) per latent class. Conditional

probabilities closer to 1 represent a higher probability of rating the target group more positively than its average evaluation, and thus provide an indication of the *relative* position of the latent class toward each of the seven target groups. What immediately stands out is the distinction between the two target types, the symbolically-different groups versus the ethnically-different groups, paralleling the two factors of the CFA results. In four out of five latent classes, the ethnic groups are systematically disliked more than the symbolic groups.

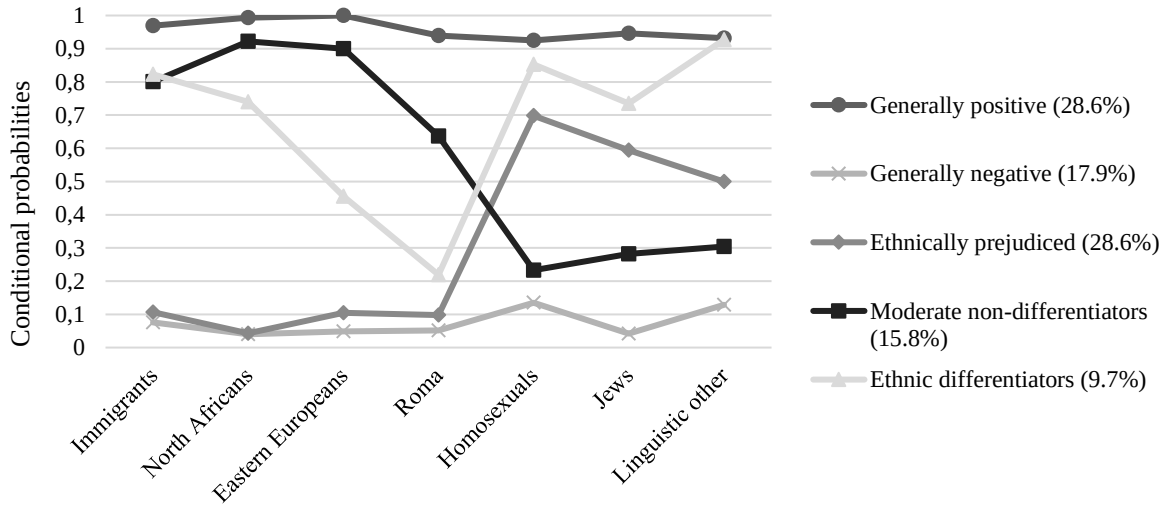

Figure 2: Conditional probabilities of five-class solution of prejudice (Higher values = Higher likelihood to rate the target group more positively than its average evaluation among the respondents)

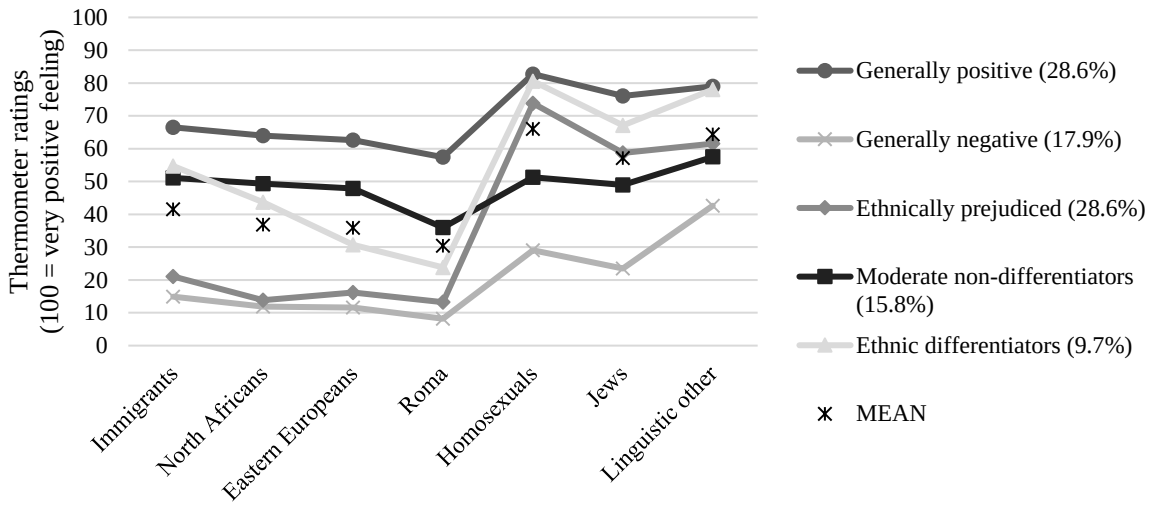

Figure 3: Mean levels of target-specific positive feelings per latent subgroup

The first and second subgroups of individuals are opposite and labeled *generally positive* and *generally negative*, they comprise respectively 28.6% and 17.9% of the sample. Individuals in these classes are extremely likely to rate all target groups respectively more positively and more negatively compared with the average position among the respondents (Figure 2). However, in absolute terms, the ethnic minority groups are evaluated somewhat less positively and more negatively than the symbolic groups (Figure 3).

As expected, a significant portion of the respondents only hold negative attitudes toward specific target groups. The *ethnically prejudiced*, representing 28.6% of the sample, combine very negative feelings toward immigrants, North Africans, Eastern Europeans, and Roma with relatively positive feelings toward homosexuals, Jews, and the other linguistic group.

Although the feelings toward the ethnic minority groups are strongly correlated, some individuals seem to further differentiate their opinions toward these groups. The fourth latent class is characterized by individuals who rate Eastern Europeans and Roma more negatively

and immigrants and North Africans more positively compared with the average respondent. This type is labeled *ethnic differentiators* and comprises 9.7% of the sample.

The fifth pattern combines a high probability to rate immigrants, North Africans, and Eastern Europeans more positively, and homosexuals, Jews, and the other linguistic group more negatively compared with the average respondent. In a relative sense, this type could be categorized as *ethnic tolerant* or *relatively symbolic prejudiced*. In absolute terms, however, individuals in this subgroup actually do not differentiate much between the groups and rate them all around 50. They can therefore be labeled *moderate non-differentiators*, representing 15.8% of the sample.

Explanatory model

In this section, we compare explanatory models of the variable-centered and person-centered solutions. We expect education, generalized trust, RWA, and left-right ideology to be related to the generalized prejudice-tolerance continuum rather than to discriminating between specified groups in terms of both dimensions and patterns. By contrast, we expect feelings of cultural and economic threat from immigration, moral progressiveness, religious practice, and evaluations of the economy to be differently related to the two latent dimensions (ethnic prejudice and symbolic prejudice) and to discriminating between the specified latent classes (the ethnically prejudiced, the ethnic differentiators, and the moderate non-differentiators).

With regard to the variable-centered approach, all predictors were entered in the CFA model presented in Figure 1. First, a model relating all predictors to the second-order generalized prejudice dimension was fitted. Second, a model relating all predictors to the ethnic and symbolic prejudice dimensions simultaneously as dependent variables was estimated, because these sub-dimensions are theoretically related.[4] The results are presented

in Table 5 and show a consistent pattern, but differences in the effect size of the parameters that are in line with our expectations are identified.

Gender, age, education, economic evaluations, and generalized trust are similarly related to the three dimensions: Women, older people, the higher-educated, individuals who evaluate their economic situation optimistically, and individuals with higher levels of generalized trust are generally less prejudiced, less prejudiced toward the ethnically-different groups, and less prejudiced toward the symbolically-different groups. Perceived economic and cultural threats from immigration are also significantly related to all three dimensions, although the relationship between immigration threat and symbolic prejudice is much weaker than its relationship with ethnic prejudice. There is no relationship between moral progressiveness and ethnic prejudice, whereas its relationship with symbolic prejudice is substantial. Religious practice and left-right ideology, on the other hand, are differently related to the three dimensions. While practicing Catholics are less tolerant toward the symbolic groups, they are more tolerant toward the ethnic groups compared with the non-practicing Catholics and the non-religious, confirming the ambiguous relationship between religion and prejudice (Hodson & Dhont, 2015). Left-right ideology is positively related to generalized prejudice and ethnic prejudice, but unrelated to symbolic prejudice.

Table 5: Standardized regression results based on CFA evaluating the effects of predictors on latent dimensions

	Generalized prejudice dimension				Ethnic prejudice dimension				Symbolic prejudice dimension			
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	β (*SE*)	*p*	β (*SE*)	*p*	β (*SE*)	*p*	β (*SE*)	*p*	β (*SE*)	*p*	β (*SE*)	*p*
Gender (ref. male)	-.14 (.03)	.00	-.07 (.03)	.01	-.07 (.03)	.02	-.04 (.02)	.10	-.15 (.03)	.00	-.10 (.03)	.00
Religion (ref. practicing Catholic)												
Non-religious	-.10 (.06)	.07	.04 (.05)	.45	.01 (.05)	.88	.04 (.04)	.37	-.16 (.06)	.00	.01 (.06)	.81
Non-practicing Catholic	-.02 (.06)	.77	.06 (.05)	.22	.10 (.04)	.02	.08 (.04)	.04	-.13 (.06)	.02	-.03 (.05)	.59
Age	.09 (.04)	.01	.09 (.03)	.00	.08 (.03)	.01	.08 (.03)	.00	.07 (.04)	.05	.05 (.04)	.14
Education	-.28 (.04)	.00	-.09 (.03)	.00	-.24 (.03)	.00	-.08 (.03)	.00	-.21 (.04)	.00	-.08 (.04)	.02
Region (ref. Flanders)	.01 (.03)	.78	.01 (.03)	.89	.02 (.03)	.49	.03 (.02)	.24	-.01 (.03)	.83	-.05 (.04)	.14
Own economic situation	-.07 (.04)	.04	-.02 (.03)	.48	-.07 (.03)	.02	-.02 (.03)	.45	-.05 (.04)	.17	-.01 (.04)	.70
Economic situation Belgium	-.17 (.04)	.00	-.04 (.03)	.17	-.14 (.03)	.00	-.01 (.03)	.56	-.13 (.04)	.00	-.07 (.03)	.03
Generalized trust			-.23 (.03)	.00			-.20 (.03)	.00			-.17 (.04)	.00
RWA			.04 (.03)	.14			.03 (.03)	.17			.03 (.03)	.33
Left-right			.11 (.03)	.00			.13 (.02)	.00			-.00 (.04)	.99
Moral progressiveness			-.14 (.03)	.00			-.02 (.03)	.473			-.30 (.04)	.00
Economic threat due to immigration			.26 (.03)	.00			.26 (.03)	.000			.10 (.04)	.01
Cultural threat due to immigration			.33 (.04)	.00			.31 (.03)	.000			.16 (.04)	.00

Note. Because the category "Other religion" (including Jews, Muslims, and others) was too small (*n*=46) for the multinomial regression (see Table 6), these respondents were left out at this stage. *N* Model 1, 3, and 5=1,295; *N* Model 2, 4, and 6=1,201 (FIML estimation for missing data, MLR estimation).

With regard to the LCA results, we used a three-step approach (Vermunt, 2010): First, the latent class model was estimated (see previous heading). Second, based on this model, a most likely class variable was generated. Third, the most likely class was regressed on the predictor variables via multinomial logistic regression, taking into account misclassification probabilities in the second step. The effects of the various predictors on the five latent classes–taking the generalized prejudice subgroup as the reference category–are shown in Table 6.

As predicted, moral progressiveness, and cultural and economic threat from immigration indeed differentiate between the latent classes of individuals. First, individuals in the ethnically prejudiced and generally negative subgroup were equally likely to feel threatened by immigration and to think that the Belgian economy had worsened, but the ethnically prejudiced subgroup was more likely to be progressive about moral issues. Conversely, individuals in the ethnically prejudiced and generally positive subgroups were equally likely to be progressive about moral issues, but differed in feelings of threat stemming from immigration. Compared with the moderate non-differentiators, the ethnically prejudiced were more likely to perceive threat from immigration, but scored higher on moral progressiveness, which is reflected by the absolute thermometer scores indicating that moderate non-differentiators rated homosexuals and Jews less positively compared with the ethnically prejudiced.[5] Lastly, the ethnic differentiators resemble the ethnically prejudiced, although these respondents were somewhat less likely to feel threatened by immigration.

Generalized trust also differentiates latent classes based on a generally negative-positive continuum: Generally negative individuals were more likely to score low on trust than the ethnic differentiators, moderate non-differentiators, and generally positive individuals; the ethnically prejudiced and ethnic differentiators were as equally likely to score high on trust as the moderate non-differentiators;[6] and the generally positive were the most

likely to score highest on generalized trust compared with all other subgroups.[7] The same findings apply to education and age, whereas RWA and left-right ideology do not seem to differentiate the patterns to a large extent.

Table 6: Multinomial logistic regression based on LCA evaluating the effects of predictors on latent classes

REFERENCE = Generally negative	Generally positive				Moderate non-differentiators				Ethnically prejudiced				Ethnic differentiators			
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7		Model 8	
	B (*SE*)	*p*	B (*SE*)	*p*	B (*SE*)	*p*	B (*SE*)	*p*	B (*SE*)	*p*	B (*SE*)	*p*	B (*SE*)	*p*	B (*SE*)	*p*
Gender (ref. male)	.92 (.19)	.00	.85 (.22)	.00	.36 (.21)	.09	.32 (.23)	.16	.55 (.18)	.00	.37 (.19)	.06	.49 (.25)	.05	.39 (.27)	.15
Religion (ref. practicing Catholic)																
Non-religious	.42 (.31)	.16	-.14 (.39)	.71	-.11 (.34)	.74	-.16 (.40)	.70	.68 (.33)	.04	−.01 (.38)	.99	.21 (.44)	.63	-.21 (.51)	.69
Non-practicing Catholic	.30 (.29)	.30	.13 (.35)	.71	.09 (.31)	.78	.07 (.35)	.84	1.07 (.30)	.00	.59 (.33)	.07	.36 (.40)	.37	.13 (.44)	.76
Age	-.02 (.01)	.00	-.02 (.01)	.01	-.02 (.01)	.02	-.02 (.01)	.05	-.02 (.01)	.02	-.01 (.01)	.11	-.01 (.01)	.14	-.01 (.01)	.44
Education	.61 (.09)	.00	.30 (.11)	.01	.33 (.11)	.00	.16 (.12)	.17	.21 (.09)	.01	.20 (.09)	.03	.42 (.12)	.00	.17 (.13)	.18
Region (ref. Flanders)	-.34 (.18)	.07	-.37 (.23)	.10	-.01 (.21)	.97	.01 (.23)	.94	-.16 (.18)	.38	.02 (.20)	.91	-.42 (.25)	.09	-.35 (.28)	.22
Own economic situation	.16 (.12)	.17	.09 (.14)	.51	.11 (.13)	.43	.02 (.15)	.87	-.13 (.12)	.25	-.14 (.12)	.24	.17 (.16)	.28	.08 (.17)	.64
Economic situation Belgium	.40 (.10)	.00	.15 (.13)	.24	.35 (.11)	.00	.23 (.13)	.07	.18 (.10)	.09	.18 (.11)	.11	.47 (.14)	.00	.36 (.15)	.02
Generalized trust			.30 (.05)	.00			.15 (.05)	.00			.04 (.04)	.40			.16 (.06)	.01
RWA			-.24 (.17)	.16			-.26 (.17)	.12			-.16 (.16)	.32			-.39 (.21)	.07
Left-right			-.16 (.05)	.00			-.06 (.05)	.12			-.02 (.04)	.68			-.03 (.06)	.64
Moral progressiveness			.58 (.13)	.00			.15 (.13)	.23			.61 (.12)	.00			.55 (.18)	.00

Economic threat immigration	-.77 (.13)	.00	-.57 (.14)	.00	.02 (.12)	.85	-.46 (.15)	.00
Cultural threat immigration	-.767 (.11)	.00	-.39 (.11)	.00	.06 (.10)	.56	-.44 (.13)	.00

Note. Because the category "Other religion" (including Jews, Muslims, and others) was too small (*n*=46) for the multinomial regression, these respondents were left out at this stage. *N* Model 1, 3, and 5=1,295; *N* Model 2, 4, and 6=1,201 (FIML estimation for missing data, MLR estimation).

Discussion

The aim in this research was to investigate the structure of generalized prejudice by comparing the findings of a variable-centered approach (CFA) and a person-centered approach (LCA). CFA resulted in a multidimensional conceptualization, distinguishing ethnic and symbolic prejudice, but with a strong generalized prejudice factor underlying the separate dimensions. Although some target groups clearly share more variance than others, this method primarily draws attention to the common generalized prejudice component.[8] The CFA results basically indicate that specific prejudices correlate among each other, and that people who are prejudiced more than average toward one target group also tend to hold relatively strong prejudices toward other groups. Importantly, our main contribution is that we show a person-centered LCA approach yields additional information that is not visible in an exclusively variable-centered approach, rather than providing a specific test of prejudice patterns in the Belgian population.

By contrast, LCA takes *levels* of prejudice into account and maps the heterogeneity of the population in terms of associations between prejudices. The analysis distinguishes between five latent prejudice patterns: Generally negative, generally positive, ethnically prejudiced, ethnic differentiators, and moderate non-differentiators. The advantage of combining the two methods is that they each correspond to a different interpretation of generalized prejudice. In current literature, generalized prejudice is often used interchangeably to refer to either a consistency in the response tendency across target groups, or a general dislike of these groups (for a review, see Bergh & Akrami, 2016). Importantly, CFA addresses the first operationalization, while LCA operationalizes the second.

Because CFA is most commonly used to measure the structure of prejudice, we highlight several strengths of the person-centered approach for the conceptualization of generalized prejudice. Although generalizations of the content and the size of prejudice

patterns must be carried out prudently–LCA results are context-specific and sensitive to the sample and target groups considered–the person-centered approach offers some clear advantages. First, LCA exposes both generality and specificity in people's prejudice. Across three of the classes (*generally negative*, *moderate non-differentiators*, and *generally positive*), a traditional generalized prejudice trend can be detected: Some people are consistently more negative than others in their ratings of marginalized groups. In addition, there are two specified patterns that offer greater nuance: Individuals who seem to especially dislike ethnic minorities (*ethnically prejudiced*), or Eastern Europeans and Roma in particular (*ethnic differentiators*). The regressions show that compared with the *generally negative* class, these individuals are more morally progressive and somewhat higher educated, while perceiving immigrants to be more economically and culturally threatening.

The LCA also combines information on the relative and absolute position of target group evaluations: The prejudice patterns reveal how respondents in each subgroup evaluate the seven groups compared with the average respondent and at the same time how respondents rate the groups in an absolute sense. As a result, it combines information on "relative devaluation" and "absolute dislike."

In addition, LCA confirms the duality between ethnically-different groups and symbolically-different groups found in the CFA analysis, but adds that ethnic targets are systematically disliked more than symbolic ones; a recurrent pattern in every subgroup (except for the moderate non-differentiators) (Figure 3). In this sense, the person-centered approach confirms the critique of Duckitt (1992) that an absolute interpretation of generalized prejudice–that all groups are disliked to the same extent–is not tenable and should be relaxed to a relative interpretation (i.e., all groups are evaluated less positively or more negatively than the average in society).

We find that some individuals are generally more negative toward target groups (relative to general opinion), and some groups face more prejudice (relative to other groups). However, there is another feature of relativity that introduces a conundrum here, and for generalized prejudice literature as a whole. In particular, one might question whether it is really prejudice to indiscriminately dislike everyone, or whether this refers to misanthropy–a hatred or distrust of *all* people–rather than prejudice. For example, Graziano, Bruce, Sheese, and Tobin (2007) argue that "the usual definition of prejudice implies a relative comparison involving responses that are selective and differential […] Indiscriminate, nonselective negativity is not usually treated as prejudice" (p. 566). In other words, one would need a (relatively) positively rated reference group to label something as prejudice (see also Bergh & Akrami, 2016). In this study, we cannot tell whether or not the *generally negative*, *moderate non-differentiators*, and *generally positive* represent different levels of anti-minority bias or different levels of misanthropy. In future work it would be important to address this limitation by including ratings of reference groups (e.g., societal majorities), thereby making it possible to differentiate individuals who are negative toward everyone (misanthropists) from those who are generically biased against minorities (e.g. rating all minorities less favorably than the majority). With the addition of reference groups, it would also be meaningful to examine correlations *within* classes (in a LCA framework these are set to zero) (Collins & Lanza, 2010). In particular, consistently positive correlations in a factor-mixture framework (Lubke & Muthén, 2005) would suggest general positivity-negativity response sets, whereas negative or nil correlations would provide divergent validity compared with misanthropy (i.e., it is not possible to predict negativity toward minorities simply based on general negativity). With these future directions in mind, the current findings are important, as they emphasize that without acknowledging the definitional and statistical pitfalls of an

exclusively variable-centered approach, researchers are likely to continue discussing *absolute* generalized prejudice.

A few other limitations should also be acknowledged. First, as our indicators were not explicitly developed for this kind of research, we often had to rely on single-item measurements, restricting the validity of our concepts and limiting the range of predictor variables included. Future research would benefit from including predictors such as exposure to and contact with the target groups, as these might affect the observed prejudice patterns and the structure of the typology retrieved by LCA. Second, we collapsed the thermometer scores into two categories (above and below average) to ease interpretation of the prejudice levels (any absolute level of neutrality–such as the midpoint of the scale–would be arbitrary. See Blanton & Jackard, 2006). Nonetheless, this is limiting in the sense that we did not use the full information in the ratings. However, subsequent analysis with more categories revealed similar patterns to those shown in Figure 3. Third, some classes may reflect common method variance (inattention and/or response sets), which should also be explored in future research. Notwithstanding these limitations, we believe that our application of the two approaches provides new insights into how variable-centered and person-centered approaches complement each other to provide a richer conceptualization of generalized prejudice.

Footnotes

[1] One factor analytic technique, Means and Covariance Structure (MACS), does make it possible to take mean structures into account (Sörbom, 1974). This opportunity is, however, not exploited in this field of research.

[2] Walloons (French-speaking Belgians) and Flemings (Dutch-speaking Belgians) hold similar patterns of (generalized) prejudice (Meeusen, Boonen, & Dassonneville, In press) and resemble each other in levels of target-specific prejudice. Both subsamples are combined to maximize power and parsimony.

[3] See Meeusen (2017) for more information regarding the position of the seven target groups in Belgium.

[4] The five-class solution was replicated by three independent 50% random samples of the initial sample. Results are available in the online supplementary file.

[5] A model regressing all predictor variables simultaneously on the second-order factor and the two sub-dimensions is not identified.

[6] Results based on an analysis with "moderate non-differentiators" as the reference category.

[7] Results based on an analysis with "moderate non-differentiators" as the reference category.

[8] Results based on an analysis with "generally positive" as the reference category.

[9] The higher-order communality is also evident when the different sub-factors involve different measurements (e.g., Zick et al., 2008), suggesting conceptual overlap rather than common method variance (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003). We cannot be conclusive about this issue, however.

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